

## ABSTRACT:

A method for producing potassium-doped pyrogenic oxides involves mixing a gaseous mixture including a pyrogenic oxide precursor and an aqueous aerosol containing a potassium salt to form an aerosol-gaseous mixture which is then reacted in a flame under conditions suitable for producing pyrogenic oxides by flame oxidation or flame hydrolysis to form the potassium-doped pyrogenic oxides product. The particle product is spherical, has a BET surface between 1 and 1000 m<sup>2</sup>/g and a narrow distribution of particle size of at least 0.7. The doped oxides can be used as polishing material (CMP application).